ZyXEL

Key Features

- Industry Standard Compliance
- SFP MSA (Multi-Source Agreement) Compliance
- Hot-Pluggable with Maximum Flexibility
- Compact Size, High Port Density
- Low Power Dissipation

Carrier Switches
Transceiver Series

The ZyXEL Transceiver Series is a complete range of industry standard, hot-pluggable transceiver modules consists of Fast, Gigabit and 10 Gigabit variations.

Key Benefits

Standard-based Design Assures Compatibility

The ZyXEL transceiver family follows industry standards to assure compatibility with switches from other manufacturers without barrier set by proprietary technologies.

Comprehensive Portfolio for Different Connectivity Demands

With ZyXEL's comprehensive Fast, Gigabit and 10 G transceiver product range, users can just plug the proper model onto the network to extend the physical coverage.

Swappable Design Facilitates Network Maintenance

Independent transceiver design provides the highest network maintenance flexibility. Transceivers can be freely added when required, and infrastructure upgrades or transceiver repairs can be done easily by just replacing the transceiver instead of the whole device.

Bi-directional Transceivers Maximizes Usage of Existing Fiber Plant

Traditional fiber optic networking requires two strands of fiber to accomplish communications, in which one strand is reserved for sending signals, while the other is for receiving. On the other hand, bi-directional, dual-wavelength transceivers can establish communications over just one strand of fiber by using two separate optical wavelengths: one receives and the other transmits signals. Transmission capacity can be expanded immediately without additional cost laying new fiber, as such the value of existing fiber plant can be maximized.

Supporting DDMI (Digital Diagnostics Monitoring Interface) SFP Enhances Management Capability

The enhanced digital interface enables a real time link to be established between the switch and the SFP transceiver. This enables the switch to access operating parameters within the fibre link. This includes digital features such as soft control and monitoring of SFP I/O signals. In addition the DDMI functionality enables the capability to implement digital alarms and warnings.

The digital diagnostic monitoring interface enables users to have the capability of performing component monitoring, fault isolation and failure prediction tasks on their transceiver-based links. This feature ensures that the business can be proactive in preventative maintenance of the network and ensure business continuity.

DDMI Monitors:

- Temperature
- Supply voltage
- Transmitted bias current
- Transmitted power
- Received power

All features listed above include alarm and warning thresholds.

ZyXEL

Carrier Switches
Transceiver Series

Specifications and Features

Transceiver Class	10 Gigabit XFP		
	FTLX8511D3 (XFP-SR)	FTLX1611M3 (XFS-ER)	FTLX1412D3BCL (XFP-LR)
Connector	LC	LC	LC
Wavelength	850 nm	1550 nm	1310 nm
Max Transmission Distance	300 m	40 km	10 km
Bit Rate	9.95 ~ 10.5 Gb/s	9.95 ~ 11.1 Gb/s	9.95 ~ 10.5 Gb/s
Receiver Characteristics			
Optical Receiver Sensibility	-11.1 dBm	-16 dBm	-12.6 dBm
Maximum Input Power	+0.5 dBm	-1 dBm	+0.5 dBm
Operational Ranges			
Supply Voltage	3.1 ~ 3.45 V	3.1 ~ 3.5 V	3.1 ~ 3.5 V
Max Current	400 mA	400 mA	600 mA
Dimensions (mm)	56 x 13.4 x 12.4	56 x 13.4 x 12.4	56 x 13.4 x 12.4
With DDMI Features	Yes	Yes	Yes

SFP Transceiver Class	Gigabit SFP							Fast Ethernet SFP				
	SFP-1000T	SFP-SX-D	SFP-LX-10-D	SFP-BX1310-10-D	SFP-BX1490-10-D	SFP-LHX1310-40-D	SFP-ZX-80-D	SFP-100FX-2	SFP-100TX	SFP-100LX-20	SFP-100BX1310-20-D	SFP-100BX1550-20-D
Connector	RJ-45	LC	LC	LC	LC	LC	LC	LC	RJ-45	LC	LC	LC
Wavelength	-	850 nm	1310 nm	1310 nm (TX) 1490 nm (RX)	1490 nm (TX) 1310 nm (RX)	1310 nm	1550 nm	1310 nm	-	1310 nm	1310 nm (TX) 1550 nm (RX)	1550 nm (TX) 1310 nm (RX)
Max Transmission Distance	100 m	550 m	10 km	10 km	100 m	40 km	80 km	2 km	-	20 km	20 km	20 km
Optical Budget	-	7.5 dB	10.5 dB	11 dB	11 dB	21 dB	24 dB	12 dB	-	15 dB	20 dB	20 dB
Laser Transmitter Characteristics												
Maximum Launch Power	-	-4 dBm	-3 dBm	-3 dBm	-3 dBm	+3 dBm	+5 dBm	-14 dBm	-	-8 dBm	-8 dBm	-8 dBm
Minimum Launch Power	-	-9.5 dBm	-9.5 dBm	-9 dBm	-9 dBm	-2 dBm	0 dBm	-20 dBm	-	-15 dBm	-14 dBm	-14 dBm
Receiver Characteristics												
Optical Receiver Sensibility	-	-17 dBm	-20 dBm	-20 dBm	-20 dBm	-23 dBm	-24 dBm	-32 dBm	-	-30 dBm	-34 dBm	-34 dBm
Maximum Input Power	-	-3 dBm	-3 dBm	-3 dBm	-3 dBm	-3 dBm	-3 dBm	-8 dBm	-	-5 dBm	0 dBm	0 dBm
Operational Ranges												
Supply Voltage	3.1 ~ 3.45 V	3.1 ~ 3.5 V	3.1 ~ 3.5 V	3.1 ~ 3.5 V	3.1 ~ 3.5 V	3.1 ~ 3.5 V	3.1 ~ 3.5 V	3.1 ~ 3.5 V	3.1 ~ 3.45 V	3.1 ~ 3.5 V	3.1 ~ 3.5 V	3.1 ~ 3.5 V
Max Current	300 mA	250 mA	300 mA	-	300 mA	300 mA	300 mA	250 mA	300 mA	250 mA	300 mA	300 mA
Dimensions (mm)	56 x 13.4 x 12.4	56 x 13.4 x 12.4	56 x 13.4 x 12.4	56 x 13.4 x 12.4	56 x 13.4 x 12.4	56 x 13.4 x 12.4	56 x 13.4 x 12.4	56 x 13.4 x 12.4	56 x 13.4 x 12.4	56 x 13.4 x 12.4	56 x 13.4 x 12.4	56 x 13.4 x 12.4
With DDMI Features	-	Yes	Yes	Yes	Yes	Yes	Yes	-	-	-	Yes	Yes

Environmental Specifications

- Operating temperature: 0°C ~ 70°C
- Storage temperature: -40°C ~ 85°C

Safety Certification

- Class 1 Laser
- 21 CFR 1040.10 and 1040.11 compliant
- CSA
- TUV

Supported Carrier Switches

		Metro 4000 Series		Metro 3000 Series						Metro 2000 Series
		XGS-4728F	GS-4012F	MGS-3712	MGS-3712F	MES-3728	ES-3124F	ES-315	ES-315F	MES-2110
10 Gigabit XFP	FTLX8511D3 (XFP-SR)	Yes	-	-	-	-	-	-	-	-
	FTLX1611M3 (XFS-ER)	Yes	-	-	-	-	-	-	-	-
	FTLX1412D3BCL (XFP-LR)	Yes	-	-	-	-	-	-	-	-
Gigabit SFP	SFP-1000T	Yes	Yes	Yes	Yes	Yes	Yes	-	-	Yes
	SFP-SX-D	Yes	Yes	Yes	Yes	Yes	Yes	-	-	Yes
	SFP-LX-10-D	Yes	Yes	Yes	Yes	Yes	Yes	-	-	Yes
	SFP-BX1310-10-D	Yes	Yes	Yes	Yes	Yes	-	-	-	Yes
	SFP-BX1490-10-D	Yes	Yes	Yes	Yes	Yes	-	-	-	Yes
	SFP-LHX1310-40-D	Yes	Yes	Yes	Yes	Yes	Yes	-	-	Yes
	SFP-ZX-80-D	Yes	Yes	Yes	Yes	Yes	Yes	-		Yes
Fast Ethernet SFP	SFP-100FX-2	-	-	-	-	-	Yes	-	Yes	Yes
	SFP-100TX	-	-	-	-	-	Yes	-	Yes	Yes
	SFP-100LX-20	-	-	-	-	-	Yes	-	Yes	Yes
	SFP-100BX1310-20-D	-	-	-	-	-	Yes	-	Yes	Yes
	SFP-100BX1550-20-D	-	-	-	-	-	Yes	-	Yes	Yes

Supported Enterprise LAN Switches

		7000 Series	4500 Series		4000 Series		3000 Series			2200 Series		2000 Series				
		MS-7206	XGS-4528F	XGS-4526	GS-4024	ES-4124	ES-3124	ES-3124 PWR	ES-3148	GS-2200-24	GS-2200-48	ES-2024A	ES-2024 PWR	ES-2108	ES-2108-G	ES-2108 PWR
10 Gigabit XFP	FTLX8511D3 (XFP-SR)	Yes	Yes	Yes	-	-	-	-	-	-	-	-	-	-	-	-
	FTLX1611M3 (XFS-ER)	Yes	Yes	Yes	-	-	-	-	-	-	-	-	-	-	-	-
	FTLX1412D3BCL (XFP-LR)	Yes	Yes	Yes	-	-	-	-	-	-	-	-	-	-	-	-
Gigabit SFP	SFP-1000T	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes
	SFP-SX-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes
	SFP-LX-10-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes
	SFP-BX1310-10-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes
	SFP-BX1490-10-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes
	SFP-LHX1310-40-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes
	SFP-ZX-80-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes
Fast Ethernet SFP	SFP-100FX-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SFP-100TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SFP-100LX-20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SFP-100BX1310-20-D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SFP-100BX1550-20-D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Supported Enterprise LAN Switches

		1500 Series					1000 Series					100 Series	
		GS1500-24P	GS-1524	GS-1548	ES-1528	ES-1552	GS-1124A	GS-1124B	GS-1116A	ES-1124	ES-1024B	ES-116P	ES-124P
10 Gigabit XFP	FTLX8511D3 (XFP-SR)	-	-	-	-	-	-	-	-	-	-	-	-
	FTLX1611M3 (XFS-ER)	-	-	-	-	-	-	-	-	-	-	-	-
	FTLX1412D3BCL (XFP-LR)	-	-	-	-	-	-	-	-	-	-	-	-
Gigabit SFP	SFP-1000T	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	-	-	-
	SFP-SX-D	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	-	-	-
	SFP-LX-10-D	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	-	-	-
	SFP-BX1310-10-D	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	-	-	-
	SFP-BX1490-10-D	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	-	-	-
	SFP-LHX1310-40-D	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	-	-	-
	SFP-ZX-80-D	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	-	-	-
Fast Ethernet SFP	SFP-100FX-2	-	-	-	-	-	-	-	-	-	-	-	-
	SFP-100TX	-	-	-	-	-	-	-	-	-	-	-	-
	SFP-100LX-20	-	-	-	-	-	-	-	-	-	-	-	-
	SFP-100BX1310-20-D	-	-	-	-	-	-	-	-	-	-	-	-
	SFP-100BX1550-20-D	-	-	-	-	-	-	-	-	-	-	-	-

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